

Sub B^1

2. The plant of Claim 1, wherein said construct comprises a full-length coding sequence of said mutant gene.

Brassica canola plant.

Sub B27

5. The plant of Claim 1, wherein said altered fatty acid composition comprises from about 69% to about 90% oleic acid, based on total fatty acid composition.

20 desaturase gene encodes a microsomal gene product.

8. The plant of Claim 7, wherein said mutant
25 desaturase gene comprises the sequence
His-Lys-Cys-Gly-His.

10. A plant containing a recombinant nucleic acid construct, said construct comprising at least one seed-specific regulatory sequence operably linked in sense orientation to a mutant delta-15 fatty acid desaturase gene and wherein said construct confers altered fatty acid composition in seeds of said plant.

35 11. The plant of Claim 10 wherein the plant is a
Brassica canola plant.

22. The plant of Claim 19, wherein said altered fatty acid composition comprises from about 1.0% to about 10.0% linoleic acid and from about 1.0% to about 10.0% α -linolenic acid, based on total fatty acid composition.

5 23. A method for altering fatty acid composition in plant seeds, comprising the steps of:

- 10 a) introducing a recombinant nucleic acid construct into a plant, said construct comprising at least one seed-specific regulatory sequence operably linked in sense orientation to a mutant delta-12 fatty acid desaturase gene;
- 15 b) obtaining progeny from said plant, said progeny producing seeds having said altered fatty acid composition; and
- c) producing seeds having said altered fatty acid composition.

20 24. The method of Claim 23, wherein said construct comprises a full-length coding sequence of said mutant gene.

25 25. The method of Claim 23, wherein said altered fatty acid composition comprises a decreased level of linoleic acid.

26. A method for altering fatty acid composition in seeds, comprising the steps of:

- 30 a) introducing a recombinant nucleic acid construct into a plant, said construct comprising at least one seed-specific regulatory sequence operably linked in sense orientation to a mutant delta-15 fatty acid desaturase gene;
- b) obtaining progeny from said plant, said progeny producing seeds having said altered fatty acid composition; and
- 35 c) producing said seeds having said altered fatty acid composition.

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